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Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

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Raccoons by Steve Maslowski, Cincinnati, Ohio.
Back cover: Eastern Shore sunset by Gary Gaston, Lake Charles, Louisiana.

Letters

Two On Snakes

The article "Snake Lore" in your May 1982 issue written by Joseph C. Mitchell is probably correct. However, I disagree with Mr. Mitchell with reference to his statement about black snakes. Black snakes, when startled, will sometimes run at you at a fast rate of speed and if this is not so, they didn't tell the black snake that ran at me at a speed of about 25 to 30 miles per hour.

B.A. Davis, Jr.
Rocky Mount

Dr. Mitchell, a professor of biology at the University of Richmond, says, "You are probably referring to the black racer which will travel at an apparent high rate of speed especially on a hot day. However, actual rates are deceptive when looking at a snake in vegetation. Calculated rates of speed are based on snakes in an open grassy area. Under these circumstances a man could outrun it. No snake is able to move at 25-30 mph."—Assistant Editor

I read with pleasure the June issue of *Virginia Wildlife.* I enjoyed the article by James Bonavita on the canebrake rattlesnake. His educated position on snakes should be shared by more people. Too many snakes die annually as a result of their assailants' fear of the way they look and ignorance of what they are. It is nice to know that informed people like the author are so close to the wildlife in Virginia.

James D. Ignowski
Temple Hills, Maryland

Cylinder Bore

Our appreciation to John B. Del Savio and high marks to him on his article "The Forgotten Cylinder Bore" (June '82).

This article needed to be written for the multitudes of us who keep on shooting in the conventional way using manufacturer's suggestions, ignoring the changes brought about in the use of use of shot-protected shells.

At age 56 (I've been shooting since age 14), I'm guilty and know I'm missing too many shots because of a tight pattern at the normal upland shooting ranges.

I cannot thank Mr. Del Savio enough for waking me up to reality.

Ervin Jackson, Jr.
Charlotte, NC

Woman Hunters

Do you ever break the statistics down by the sex of the hunter? My daughter tagged a buck on western doe day and we wondered how many deer were taken by woman hunters.

My three boys and two girls all like to hunt deer, but we don't see many women hunting in Virginia. It was more common when we hunted in Utah.

I enjoy your magazine very much.

John E. Moran
Arlington

We do not have figures on how the hunting population is divided among men and women in Virginia. It seems to say, however, that women are a tiny minority among hunters, and this more or less reflects a national trend. According to statistics published in the 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation *(U.S. Fish & Wildlife Service and Bureau of the Census), only eight percent of the hunting population were women; further, 20 percent of men had hunted as opposed to two percent of women.*

We've passed your question along to our game division, so that they might consider the gender issue the next time they conduct a hunter survey.—Assistant Editor

Wildlife Books

I have been enjoying your magazine for years. . . and have been wondering if you have ever printed books of the beautiful pictures of birds and wildflowers or if any of the artists have published any.

I, for one, would like to have them.

Theodore R. Krehbiel
Fredericksburg

Yours is a question which comes up fairly often. As you are no doubt aware, money for state agencies is in short supply, and books just aren't in our publication budget presently. We do have an endangered species booklet (black and white) due out soon, and plan another non-game book eventually featuring several mammals. As for reprinting any of the art we featured in the magazine, we have no such plans at the moment, although it's a good idea and one we'll certainly consider should the money become available.

Since most of the art we publish comes from free-lance sources, we would not necessarily be aware of books that "our" artists have published. We did offer a small paperback book last year as a subscription premium—"Wildlife Neighbors of the Williamsburg Area"—which featured paintings by Jerry Ellis, whose work we have published in the magazine. The book was written by William Snyder, another Virginia Wildlife *contributor. We sold out of the supply we had, but you could write to the publisher to inquire about a copy for yourself. The address is: Williamsburg Publishing Company, P.O. Box 1865, Williamsburg, Virginia 23185.*—Assistant Editor

Safety Articles

I have just read your magazine. I think that all of our sportsmen should have it. You [publish] a lot of good stories that help others, but the saddest one is the boating and hunting accidents that happen in Virginia. You know, if you print just one page of how to handle a boat, a gun, etc., you may help other Virginians to safety. Our Game Commission can't do it by themselves, so it's up to us to help.

Jimmy Martin
Richmond

Your point is well-taken. We try to publish hunting, fishing, and other outdoor recreation articles which include tips for safety afield, or which at least project an image of the safe sportsman, but there's nothing like the direct approach. Next month, we do plan to run a hunting safety article in our special hunting annual.

While we can try to do our part in the magazine, our primary means of projecting the safety message to the public is in our hunter safety program. A teacher-to-student, "hands-on" experience is even more effective than an article in a magazine. As we have noted in Virginia Wildlife *in the past, the Game Commission offers its hunter safety course through schools, clubs and other groups and on television. If you would like more information on this program, get in touch with your local game warden or write to the Game Commission in care of the Safety Officer. The address is P. O. Box 11104, Richmond, Virginia 23230-1104.*—Assistant Editor

by James McHugh and Jack Randolph

Spike Knuth

Add Weight to Your Stringers

If you want a big fish that'll provide you with a good fight and a tasty meal, go for the channel catfish.

"What are those guys fishin' for?" shouted an angler in a passing boat to his companion, straining his voice to get above the roar of their outboard motor.

"I don't know," replied the other. "Way out in the middle of the lake like that they're either fishin' for crappies or don't know what they're doin'."

The two anglers, their boat anchored far from shore in Chickahominy Lake, knew very well what they were doing. A stringer tied to the boat held a half dozen channel cats, none of which were under eight pounds. These fellows had learned a secret that many anglers pass by. If you have a yen to tangle with big, good eating fish, you can't go wrong with channel cats.

Channel catfish are readily available to anglers throughout Virginia. They are extremely plentiful in the tidal rivers where a substantial commercial fishery for this species exists. Most commercial fishermen take them in fish pots but a few big operators catch catfish in huge haul seines, often more than a thousand yards long. Of course, commercial fishing for catfish is legal only in the tidal waters of Virginia.

In addition to the brackish and fresh water tidal areas of the state, channel cats are found in nearly every stream, reservoir, lake and pond in the Commonwealth. Each year the Commission of Game and Inland Fisheries, with the cooperation of the U.S. Fish and Wildlife Service, stocks as many as 500,000 channel catfish into Virginia waters. Included in this program are large and small impoundments throughout the state. The fish, stocked as three- to six-inch long fingerlings, may live 10 years and attain weights in excess of 25 pounds. Although about 200 citation size (10 pounds or larger) channel cats are caught each year, most channel cat populations remain underfished.

The channel catfish has a number of traits which make it a particularly desirable species for stocking. First, it is fairly easy to raise and can therefore be produced and stocked at low cost. Second, it adapts well to our waters and grows to a large size in both large and small bodies of water. In many waters an average channel cat may weigh two to four pounds, and larger individuals are quite common. Third, channel cats are not particularly hard to catch and they are excellent fighters and very good to eat. Top fishing months are July and August, the hottest time of the year when fishing for other species is slow. Although they prefer hot weather, these crowd pleasers will take baits during every month of the year.

Because channel cats will readily take artificial as well as natural baits, fishing authorities differ in classifying them as game or pan fish. While far more channel cats are taken on natural baits, we have caught them on nearly every type of artificial lure, ranging from flies to plastic worms, spinners, deep running plugs, shallow running plugs and top water plugs. Many a bass fishing purist has been surprised when his heavy, fighting mad bass turned into an equally fighting mad channel cat.

A wide variety of natural baits will take channel cats. In the tidal rivers frozen bait shrimp is a favorite. If it gets a little "ripe" in the sun, so much the better. Inland, many anglers like the so-called "stink baits." These can range from chicken livers and entrails to odoriferous concoctions, the recipes for which will turn a maggot's tummy.

Live minnows are excellent baits for channel cats, and where the tide ebbs and flows, catfish anglers often prefer to use small, live white perch for bait. Trot line fishermen like to use pieces of eel for bait. Also popular are the commercially prepared blood and cheese base baits. Few catfish will turn their whiskers up at a good gob of nightcrawler or earth worms. Some years ago I met a young angler who had a nice string of cats. He was still fishing, using plastic worms for bait. Between catches he would sprinkle his worms with a commercial fish scent.

Perhaps the only thing catfishermen agree on is that you must fish for cats close to the bottom. Many anglers tie one or two snelled hooks a foot or so above a heavy sinker. Others rig so that the sinker slides on the line so the cat can take the bait without feeling the weight of the sinker.

Some cats hit like a fast moving freight train while others will gently pick up the bait and move away slowly. Some are very wary and will drop a bait as soon as they feel the weight of the sinker. Sometimes they hit so hard that they can and do take complete fishing outfits away from careless anglers. If you like to prop your rod on a stick or the side of the boat while waiting for a bite you are well advised to set your reel so it will give line very easily.

Because catfish can grow big, anglers should think big when fishing for them. Use good, stout tackle and lines testing not less than 12 pounds. For most fishing a size 1 or 1/0 hook is recommended. Good styles include the Eagle Claw Model 84 ringed hook or the Eagle Claw Model 32 double snelled hook. Trot liners favor stainless steel hooks ranging in size from 1/0 to 4/0. The weight of the sinker is dictated by the depth of the water and the strength of the current. Normally a one-ounce sinker is adequate.

When you hook a channel cat, the odds are strong it will stay hooked. They have tough, fleshy mouths from which a hook seldom tears loose. In fact, if you try to unhook one

without the help of a pair of needle nose pliers you will have a problem. A good, large landing net is another necessary piece of tackle. Many big cats are lost because anglers can't get them into the boat.

When first hooked, a big channel cat may take off on a hard, long run. As you begin to gain line on the fish you will notice that it will refuse to leave the bottom. Often, you will get a big channel cat right up to the boat, but it will refuse to come to the surface. Instead, it will either try to go under the boat or cruise around it in circles. When you hang a big cat, it's a good idea to pull in any other lines you may have out and to pull up at least one of the anchor ropes. Catfish simply love to tangle lines around anchor lines and escape.

Imported chain-type stringers, normally made with seven big safety-pin type snaps on them, were not designed with big channel cats in mind. A good-sized cat will twist one of these stringers into so much scrap in a few minutes. A rope-type stringer or one of the locking type, quality made chain-stringers is required to hold these roughnecks.

Smart catfishermen know that when there is a heavy rainfall, sufficient to muddy up the water, that's the time to go catfishin'. An excellent example of this occured on October 9, 1976, when heavy rains made the water at Lake Brittle extremely muddy. During the following two days, 24 fishermen caught 47 channel cats that totalled 221 pounds, or an average weight of nearly five pounds to the fish! Considering that Lake Brittle is a small lake of only 77 acres, this two-day catch amounted to almost three pounds of catfish to the acre. Perhaps it was the amount of food swept into the water by the runoff that stimulated this feeding spree. The water temperature was only 60° which is substantially cooler than optimum for catfish activity. It was also interesting to note more than half of the fish were taken by bank fishermen.

Lake Brittle is a fine example of a small lake that has benefitted from the Game Commission's stocking program. Stocking began in 1964. Since 1968, anglers have removed more than 25,000 pounds of channel catfish from this small impoundment. That's over 12 tons at an average size of just shy of a whopping three and a half pounds!

Lake Burke, in Fairfax County lies almost in the shadow of Washington, D.C. On an angler-per-acre basis, this lake is the most heavily fished lake in Virginia. On a spring weekend you could literally walk across the lake, stepping from boat to boat! Surprisingly, channel cats have responded well to all this activity. Although most of the Lake Burke anglers would be surprised to learn that this small lake hosts a fine population of channel catfish, it does support an outstanding population. Since 1967 this 218-acre lake has produced 477 channel cats weighting 10 pounds or more. Between 1972 and 1978 one angler alone caught and released 106 citation channel catfish!

Lake Chesdin is a medium-sized water supply reservoir near Petersburg. Only recently has the fishing in this lake caught public attention, primarily for its excellent crappie fishing. Last summer the lake had a new claim to fame when a bank fisherman, using cut herring for bait, caught a new state record, 32-pound channel cat.

The Chesdin catfish defeated a 30-pounder caught in Smith Mountain Lake in 1975. Although famous for its striped bass fishery, Smith Mountain Lake is an excellent example of the potential of the channel catfish fishery. Each year, this big lake yields more than 20,000 pounds of channel catfish to hundreds of well satisfied anglers and could easily yield considerably more without danger of overfishing.

These are but a few examples of Virginia's untapped channel catfish resource. There are literally tons of channel catfish awaiting anglers who are wise to their ways and recognize their outstanding value as game and table fish. In the deep South, the superior table qualities of channel cats are well know, so well known that public demand supports a thriving, growing channel catfish for the commercial markets.

Don't confuse channel catfish with brown or yellow bullheads, sometimes called "mudcats" that are found in many of the same waters. The bullheads have square tails while those of channel cats are deeply forked. Another catfish, the white catfish, also shares some channel cat waters. Young channel cats are silvery with distinct black spots. The white catfish, while having a forked tail, does not have the spots. Larger channel catfish tend to lose their spots, but can be distinguished from the white catfish by counting the rays in the anal fin, the fin just ahead of the tail on the underside of the fish. The white catfish has 19 to 23 rays while the channel catfish has 24 to 30.

Some anglers prefer to fish for catfish at night, a practice that has almost become ritual in some sections of the state. Perhaps catfish do bite better at night, but daytime fishing is also excellent. Few fish are more available and very few grow larger or strike more willingly. If your stringer has been kind of light lately, it's time to change your luck. Try channel cats and see if you don't agree that they fight and eat about as well as any fish that swims. □

James McHugh is a fish biologist for the Game Commission, working out of Fredericksburg. Jack Randolph is deputy assistant director of the Game Commission.

by Bob Gooch

Mistakes

Archie Johnson

That Have Cost Me Game

I couldn't believe it!

I've missed some easy shots in my years of hunting, some I'm too ashamed to admit, but that bear wasn't 40 yards away, and I had an easy shot, a sturdy rest for my rifle, and plenty of time. I had squeezed off the shot—done everything right.

But at the crack of my Remington 20/06 the bruin had simply whirled and disappeared in the dense thicket. No time for a second shot, no sign that I had come even close.

Dejected, I searched in vain for a blood trail, but eventually gave up and returned to camp.

"I don't believe my scope could have possibly been off," I said to my partner back in camp.

After all, I had sighted in the trusty old rifle back home in Virginia before heading north for Alaska. A black bear was high on my list. Those Virginia bruin had evaded me for years, and I was hopeful for more success with Alaska's abundant population. A gunsmith back in Fairbanks had checked my sight with his collimator.

"Just about perfect," he had assured me.

Still, I had enough confidence in my shooting to know that I should have dropped that bear cold. There was just no way I could have missed that badly.

Still puzzled, I removed the bolt and bore-sighted on a distant mountain peak. Why, my scope was way off! Even at 40 yards I could have missed cleanly, since the bear was facing me and I didn't have a big target.

A couple of mistakes cost me that bear.

While I wanted to refrain from unnecessary shooting in the hunting area, I could have bore-sighted my rifle. That would have told me my sight had been knocked cockeyed somewhere between Fairbanks and the hunting camp. I could have made some crude adjustments by bore-sighting and then a few rounds at a makeshift target would have brought it into the black.

Probably more serious was the lack of attention the rifle had received after leaving the gun shop. It rode a gun rack in my vehicle to Seward and then it went uncased aboard a bush plane. A good case would have protected that precious scope.

Another mistake many miles away in western Quebec cost me another bear, this time on a bright spring evening. I had been sitting over a bait all week when suddenly my chance came. Again, it was close range, and I was shooting the same old Remington, a rifle I had complete confidence in.

The bear had not detected me on my tree stand when I settled the cross hairs behind its shoulder and squeezed the trigger. Its head and rear end slumped, and assured that it was finished, I began climbing down the ladder. For some reason I glanced over my shoulder and was dismayed to see my bear making a fast getaway into the dense forest. Hanging onto the ladder with both hands, I was helpless to do anything about it.

"Always shoot a bear twice, Bob," said Mal Tagger, the outfitter, when I related my experience.

(Above) A sight that had been knocked out of alignment cost the author a fine black bear. Transporting a rifle in a hard case is a good way to avoid this mistake. Sights should also be checked once the hunter arrives in camp. (Facing page) Don't forget to reload after a shot, or you may be in for a disappointment.

I have had similar experiences with smaller game, the frisky gray squirrels in the rich Virginia hardwoods. I like to take a stand near a nut tree and await the feeding bushytails—either at dawn or near dusk. I usually shoot a little .22 rifle. Instead of retrieving my game every time I score I leave it to be picked up when I am ready to leave. That way, I don't jeopardize further hunting.

I rarely have to shoot a squirrel the second time, but I do make sure it is dead before returning my attention to the tree—at least I do most of the time. Occasionally, I have made the mistake of assuming a squirrel was dead only to have it spring to life and scamper away.

Those Virginia bushytails and that Quebec bear illustrate the need to make absolutley sure your game is dead before diverting your attention to other matters. I now scrutinize downed game carefully, and don't hesitate to get off another shot if necessary. And I approach big game carefully with my rifle in the ready position.

I am torn constantly between bird hunting and big game between the scattergun and the rifle. Fortunately, I somehow find the time to enjoy both.

And I have made my share of bird hunting mistakes.

One that lingers in my memory occurred when Junior Hasher and I moved in behind our dogs on a staunch point near the edge of a Fluvanna County field. I managed to drop a single from the exploding covey of quail while Junior was getting his usual double. I hurried to pick up my prize, but when I reached for it, the merely stunned bird roared away on strong wings leaving me with an open mouth and an empty gun. I had not bothered to reload, and my mistake cost me a second chance at that bird.

On another Fluvanna County hunt, my late father-in-law and I were following his crack beagles and enjoying good hunting. Cottontails were abundant in the Old Dominion then.

I had just emptied my light Ithaca repeating shotgun at a bouncing cottontail showing its heels to the plodding little hounds. My third shot connected, and as I was pocketing my bounty a hound sounded off right behind me. I turned in the direction of the excited dog, and as I did so a dark form shot quickly by me. Too big for a rabbit.

A fox!

The animal was legal and its pelt near prime. I swung on the rapidly vanishing prize and hit the trigger. Nothing! I had neglected to reload after downing that last rabbit.

Another oversight, and another lost prize.

My deer hunting success has grown almost in direct proportion to the dramatic expansion of Old Dominion deer populations. I suppose I have made my share of deer hunting mistakes, but for some reason they don't seem to haunt me. The whitetail deer, though one of the cagiest big game animals in America, seems to allow the hunter a few errors.

But not the wild turkey!

Archie Johnson

Turkeys don't allow you many mistakes. Err, and you will eat ham for Thanksgiving.

There is simply not enough room here for me to discuss all of the mistakes I have made trying to outwit these wary birds also making a dramatic comeback in Virginia.

One turkey hunting experience I won't soon forget took place in a Montgomery County patch of mountain hardwoods where Pete Bromley led me. Our little hunting party had split up that spring morning, and in the dim light of dawn I followed an old logging road to a saddle near the top of the mountain. It was a tough climb, and I paused at daybreak to blow and get acquainted with the unfamiliar hunting ground.

While I stood there resting and enjoying the crisp spring morning, a throaty old gobbler greeted the dawn from a ridge just behind me, and even before the echoes of his gobbling had faded another tom sounded off from the ridge in front of me.

Caught between two birds!

I had to make a quick choice and decided to take advantage of a natural blind just off of the logging road and concentrate on the first gobbler. He seemed closer and more eager.

I broke out my slate box, scratched a couple of soft yelps, and got an immediate response from the bird of my choice. No sound from the other turkey. That gobbler and I talked back and forth for a good half hour, but I couldn't budge him. While contemplating my next move I happened to glance toward the logging road and there, not 10 yards away, was the long neck of the other bird. He was staring toward my blind, but the movement spooked him, and before I could raise my gun he had vanished down the far side of the mountain.

My first mistake that morning was working the wrong bird, trying to call a gobbling turkey off of a high ridge. It rarely works. The other bird was on a ridge also, but it was lower and the slope from it more gentle.

But the real mistake was overlooking that logging road. It led up the slope to the second bird, and it should have occurred to me that if the gobbler came down the mountain it would likely follow that little-used logging road. My blind did not give me command of the road.

Actually, I could have selected a blind that would have given me a chance at either bird, but instead I concentrated on one and ignored the road, an obvious approach.

I managed to get my turkey later that spring, but even now I kick myself for that bit of stupidity.

Mistakes.

Mistakes that cost us game.

They are an integral part of hunting, part of the fun, and after 50 years at it, I find I still make them. Collectively, they add up to what we loosely refer to as "hunting experience."

It's the only way some of us hardheaded hunters can learn. □

Bob Gooch is a regular contributor to Virginia Wildlife, *most recently in the May 1982 issue with "Big, Big, Game."*

The Musky Hunter

A veteran offers some sage advice.

Carl Franklin was waiting for me at Foxsport XIV Marina near his trailer summer home on Smith Mountain Reservoir. His first words were not very encouraging. "Weather's not with us," he muttered. The winds were gusting 10 to 20 miles per hour out of the northeast, and the skies were mostly clear with big fluffy clouds and a very bright August sun. We would be fishing the backside days following the unseasonable cold front. Generally, a passing cold front drives fish deep and off their "feed." Undaunted, we loaded up our gear.

Carl taxied his boat away from the dock into the beautiful waters of Smith Mountain Reservoir. Off in the distance was the familiar site of Smith Mountain and the gap where the Appalachian Power Company Dam is located. Smith Mountain is a clear, deep lake with numerous coves, fingers and arms—most of which contain a variety of fish species. Carl is an ex-air force pilot, having flown P-47 Thunderbolts in World War II in the Burma Campaign, and now retired from the Veteran's Administration. He's been a "musky hunter" since 1971 when—while bass fishing—he hung a big musky on his bass rod. From that day on, "bass fever" was replaced by "musky-itis"! Carl now devotes a good share of his time to pursuit of his favorite fish. He is president of the Old Dominion Musky Hunters, a state organization of anglers devoted to musky fishing. The largest musky Carl has landed to date was a 46¾-inch fish that weighed an even 30 pounds and was caught on the lower stretch of the Blackwater Arm.

The musky, or muskellunge, is among the largest of freshwater fishes at maturity. The world rod and reel record musky was caught in the St. Lawrence River in New York and weighed 69 pounds, 15 ounces. A 69-pound, 12-ounce

by Carl "Spike" Knuth

musky came out of Wisconsin's Chippewa Flowage, and muskies of over 100 pounds are rumored to have been taken out of some Wisconsin lakes. Sturgeon spearers on Wisconsin's Lake Winnebago in the 1940's often got muskies through the ice with photographic evidence of one going about 72 pounds! The musky is found in the upper Mississippi Valley northward; in the great Lakes region, and north to Canada—mainly Ontario. A subspecies, the Chautaugua musky, is found in the Ohio River system, New York and the St. Lawrence River. The tiger musky, which is a hybrid—a cross between a female musky and a male northern pike—is occasionally found within the same range. However, the musky's native range has been expanded by stocking, especially in southern reservoirs like Smith Mountain.

Since its initial introduction into Virginia waters in 1963, the musky has taken readily to numerous rivers and lakes. The state rod and reel record has climbed steadily each year, indicating that the musky is growing well in Virginia waters. Smith Mountian Lake has been the most consistent producer of record muskies and holds the present record of 37 pounds, nine ounces, caught by Tommy E. Adkins, Jr. of Danville.

Carl cut the power of his big Merc and we made preparations to fish. I was there to gather some film footage of musky fishing for a Game Commission movie on the fish division's musky program and for use on television. Carl had offered his time and equipment as well as his expertise. We began fishing in an area known as Bull Run, trolling shallow. Carl pointed out that the trolling depth can be regulated by the size and angles of the spoon heads. Large spoon heads will go deeper. Sometimes muskies are "suspended"—not on top or bottom—thus the necessity of having lures that run at different depths. Generally, Carl trolls more shallowly in the early part of the season—March and April—as well as mornings and evenings, especially across shallow points. Normally, he will troll a pattern to saturate all potential musky water. Later in the season and during mid-day, he fishes more deeply. Carl noted too that reservoir muskies go on false spawning runs in the spring. The males feed but the females don't, somewhat typical of the pike family. However, by April or May, the females get voracious and go on a feeding spree. This is the time, he contends, to go after muskies on the big lake.

In their native ranges, muskies appear to be "loners," preferring the cool, clear, weedy waters of lakes and quiet reaches of rivers. They spawn in weedy shallows and feed on just about anything they can swallow, including fishes, frogs, birds, mammals, snakes and salamanders. Anglers take them by still-fishing with large baitfish, such as suckers, or by casting large plugs to shoreline haunts or trolling large bucktail-spinner combos. "A musky fisherman fishing large reservoirs is always learning," says Carl. "Muskies are more predictable in their native ranges—there are places they can go to and the fish can usually be found in those places through the seasons. A lake like Smith Mountain has so many hiding places—there's so much structure—it's impossible to cover them all." While an angler has an edge in knowledge where a musky lays, that doesn't mean it's going to hit. Many a Wisconsin angler has found that it takes patience and a strong arm. Two hundred casts may go unnoticed by a musky—but what about the 201st cast that causes it to strike? No one knows. Carl feels that "larger fish tend to feed less actively—you need to get them where they lay." Good musky "holes" are probably inhabited by the most aggressive fish. Many think that these spots are filled in much the same way as trout "hides" in streams are. The best spots go to the healthiest, strongest—usually largest—fish.

Carl likens a musky to a cat. Cats don't always eat, but they are always ready to play. Even when full they'll play. Likewise, a musky will play or hit at a lure. A moving, fluttering object will entice them into striking. I thought for a moment how, as a child, I was instructed to never run from a strange dog. A running, moving, excited person or creature apparently excites a dog to a mock attack. Most fishing lures resemble struggling, injured fish—lures such as Rapalas, Pikes, Redfins, Waterdogs and Big O's. In other words, hunting muskies can be likened to hunting big game—a waterborn tiger.

Most Smith Mountain muskies are caught in the Blackwater area. Carl decided to move to the lower end of Blackwater and change to deep-running plugs. Two hours of trolling had produced one strike—maybe! Carl thought it might have been a big largemouth rather than a musky. The sky cleared some more and the sun began to feel warmer. A light northwesterly breeze, which had come around from the northeast, made us feel quite comfortable.

The big, black cylinder outboard droned unceasingly as we continued our trolling patterns. Trolling muskies is a type of fishing that can get quite boring. It takes mental discipline—endurance—to keep at it, to constantly move back and forth across points or deep holes. "It takes a special breed," says Carl Franklin. "You don't just run out and catch a trophy. Some guys have been fishing for three years without catching one!"

Carl's equipment varies but usually consists of good, stiff-backed rods and a variety of sturdy reels including Amassaduer 7000's, Penn 940's, Penn 209, and Pflueger Rocket. Carl fits them with 17- to 40-pound test line. Lures include Pikies (jointed and straights); Rapala Rebels (deep and shallow-runners); saltwater Big O's; Musky Ikes; Musky Tandems; Musky Fins; Bomber Waterdogs; Magnum Hellbenders; Whopper Stoppers and Redfins. Trolling deep is risky business in that big lures full of large treble hooks get caught up easily on underwater ledges or sunken trees. A number of styles of special weighted rigs are available to aid in untangling and retrieving these lures, by sliding down the line to dislodge the big hooks. The cost of the lures makes the investment worthwhile.

Other gear includes a large, 30-inch wide, landing net with a 40-inch deep pocket and a 32-inch handle. Carl uses a gaff on occasion, a club to "relax" the fish when necessary and a jaw-spreader for hook removal. Musky jaws are full of razor-sharp teeth capable of inflicting harmful, painful cuts and should be respected. Carl's fishing rig includes an 18-foot Galaxy; 115 HP Merc, plus an old Sears 7½ HP for auxiliary power and a Minn-Kota electric for manuevering.

Evening came and bass and striper anglers came forth. A stalled angler prevented us from fishing until dark as we had to tow him and his partner to shore. Carl looked back at the sunset and recalled one of his most memorable experiences since becoming a musky hunter—a big musky, exploding from the waters, throwing the plug—all backlit by the setting sun. The musky hunter has to learn to appreciate and accept failure as well as success. □

If someone were to conduct a survey to determine Virginians' favorite stretch of highway, I would vote for Route 39, two beautiful lanes of asphalt that slither through the peaks and valleys from Lexington to West Virginia.

Route 39 begins in the foothills just north of Lexington on Route 11 and climbs gently through the mountains as it makes its way westward. In a matter of a few miles, gentle hills with wavering stands of summer hay give way to sheer granite cliffs as the road meanders through a series of switchbacks and gains altitude. Along here, if you can hear it over the strain of your car's engine, the Maury River flows

Sweet Land O' Goshen

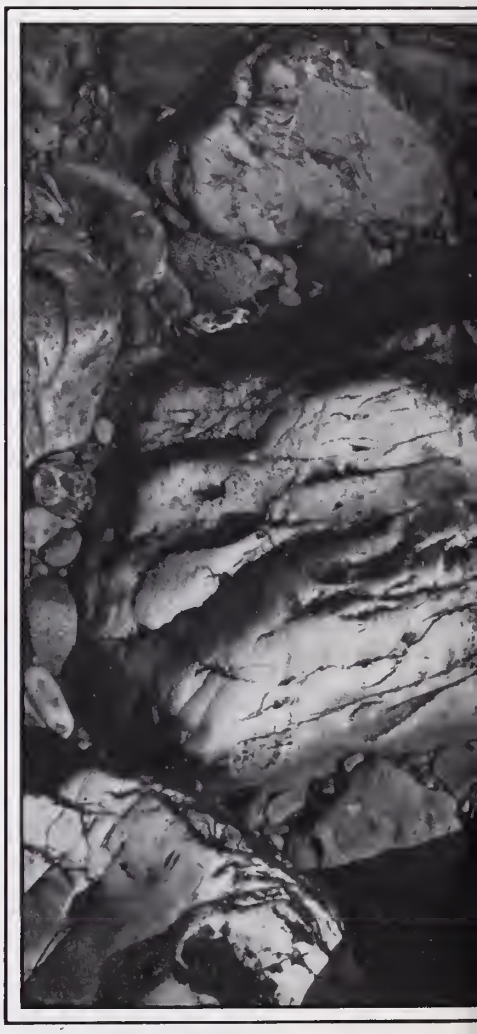
One of Virginia's special places, Goshen Pass is as it has been for centuries.

A photo-essay by Curtis Badger

parallel to the highway. Sometimes it flows gently through deep pools, but most of the time it's a violent, noisy river that throws its tremendous weight through the mountain pass like a freight train.

Here, where the river has spent eons carving its path hundreds of feet deep into the cleavage of the mountain, is the place they call Goshen. It is one of Virginia's special places.

Although Goshen draws its summer weekend crowds of swimmers and picnickers, it is still essentially a wild place. There are smallmouth bass and bluegill in the deep gentle



stretches of the river, and trout can be seen in pools near the rapids.

The pass today is as it has been for centuries, as it was when Indians hunted bear and deer in the lush forests before the white man came.

In some places the river runs deep and smooth, but in others it roars through the shallows in a confusion of white water. Although the river is not wide, many boulders, some weighing tons, are scattered hundreds of feet from the present banks, giving testimony to the power of the river when it is swollen and on an angry tear through the pass. □

Fungi: Another Kingdom

As a group, fungi do not fall into either the plant or animal kingdoms. In their diverse, almost surreal forms, they can be the best and the worst, beneficial or deadly.

by Judy Price

As pink-gilled mushrooms sold at the local market, and blue-green molds transforming cheese in the caves of Roquefort, as agents of destruction, and ones with the power to heal, the fungi inhabit the earth. As one fungus splits the bark from the chestnut, another breaks down the fallen leaves of the forest. And as one drives its host through an itching agony, another cures the staph infection of a child.

As a group, fungi are diverse and unlike any other. Alive, yet with no food-producing green, no means of mobility, they fall easily into neither the plant nor animal kingdom. Perhaps, as some scientists believe, they have created their own unique division of life, a third kingdom, a kingdom of miracles and mystery.

Mushrooms are the best known fungi, fruiting red, white, and gold across the lawn of every home, through the leaf molds of the forest, from the dung heaps of the barnyard. And yet they are strange, with bizarre forms, and sudden appearances, materializing, it seems, from the air, or as some ancient myths would have it, from a stroke of lightning.

Some believed that mushrooms were begat of the foul elements of the earth, as toads were believed to be. Others gave their origins to the gods. At last, with the aid of the microscope, science offered more credible explanations of the mushroom and its peculiar ways.

The fungus lies beneath the surface of the earth, or in the decaying tree, spreading the threads of its substance, gathering nourishment. And as the conditions ripen, tiny knots begin to form in the threads, swelling, growing, becoming a stem and a cap, finally pushing through the earth as a mushroom; the fruit, as the peach or apple is of its mother tree, of the hidden fungus.

Mushrooms take many forms. Some are sculpted like tiny birds' nests holding miniature eggs, some like clubs or cups, or pitted Christmas trees.

Mushrooms have been feared and detested, because of the death-dealing properties of some, or because of form or fetor, but most often because they were the unknown, because they had neither root nor seed, no obvious beginnings, no visible means of continuance. The same qualities have cause them to be held sacred.

Mushroom cults have existed throughout time. In Central America ancient stones in the shape of mushrooms have been found, stones with human faces carved into them. In the 13th century, an *Amanita muscaris* was painted upon the wall of a chapel in France, depicted there as the tree of knowledge, revealing the awe, the reverence with which the mushroom was regarded. More than a thousand years ago,

Amanita mushroom, button stage

Lichens

Fly Agaric

Jack-o-lanterns

Photos by Judy Price and Paul Bratton, Jr.

gangs of men called the "Berserks" consumed mushrooms in preparation for battle. The men, who were otherwise ordinary, though ill-tempered, would seem suddenly possessed; shivering, their faces became discolored, and when the effects became most intense, they fought and killed mercilessly, terrorizing towns and countries with their attacks. Not until a law was passed against the madness, stating that whoever went berserk would be exiled, did the rages cease.

For centuries, the Koryaks of Siberia have eaten the fly agaric (*Amanita muscaria*) to induce visions, to find direction of the spirit. Each chosen man eats a number of the dried mushrooms. And when intoxicated, he may become violent, or visionary. Laughter may be raised or depression. Members of lesser rank catch, and drink, the urine of those affected, so that they too may experience the Amanita.

It is perhaps this same species that the chief Germanic god, Wotan, was supposed to have had part in creating. It is said that one winter night of each year, the god and his followers ride through the forest followed by devils. They ride hard and fast until foam flecked with blood falls from the mouths of the horses. From that foam, the red mushroom with white specks is supposed to ascend in the spring.

Fungi are used by primitive people of the world today, and by those not so primitive. They are eaten by some tribes as part of a religious ritual, to receive counsel from the mushroom, to gain knowledge of the future. And they, and their derivatives, are eaten by people, even now, in this and other "civilized societies" of the world, as part of a religious or psychedelic experience, or for scientific and medical advancement.

The beneficience of fungi is unbounded; its recognition as a cure begun early in man's history, recommended by such men as Hippocrates and John Gerard. Perhaps the most distinguished of the medicinal fungi is pencillin. Since its acceptance as an effective antibiotic, fungi have had greater recognition and respect. In the years after the significance of that discovery was realized, a great race was run in the laboratories around the world to discover other "wonder" fungi, another miracle mold.

Samples of earth were requisitioned from all parts of the world. Petri dishes set full of pampered molds; the scientists and physicians watching and waiting for another breakthrough, another history maker. And other drugs (aureomycin, streptomycin, etc) were discovered, but none making the storm that penicillin had.

Still storms were raging, conceived by fungi, or nurtured

Caesar's mushroom

Parasitic fungi fruiting on a leaf

Morel

Cup fungus

by fungi; storms that could topple empires and destroy wheat fields, that could irritate man from his beginning to his end, affecting him even before conception, touching him beyond death. These are storms of rusts and smuts, and molds and mildews, of rots and ringworm, and a billion other small bits of life that live by the efforts of others. These are the Chestnut blight and the Dutch Elm disease, the "damping off" of tomato seedlings, and the athlete's foot in man.

Because fungi have neither roots nor leaves nor means of movement, they must take their food from another source. And sometimes that source is a self-sustaining form of life that is made a victim by the fungi; its own food is taken, and many times its mere existence, to sustain the fungus. They are the parasites that utilize their victims even to death, giving nothing, taking all.

Though most parasitic fungi attack plants, there are those that attack man: the common dermatophytes causing athlete's foot and ringworm, and the ones that produce more serious reaction. Histoplasmosis is a fungal infection of millions, contracted by breathing the spores of the fungus, *Histoplasma capsulatum*. In the United States it is most prevalent in the central eastern area between the Appalachians and the Mississippi River, reported to be at its peak in the Lower Mississippi Basin. At present more then 500,000 American people may be infected, most of them without knowing; most of them never to know because histo generally goes undetected. The symptoms are mild—somewhat like a cold or an allergy—and they withdraw in several days, never to return. That one infection often brings lifetime immunity.

But occasionally histo is fatal. In the progressive form of the disease there is irregular fever, persistent cough, anemia, loss of weight, and the spitting of blood. The symptoms are so similar that often tuberculosis is suspected and treatment for that illness is begun. But the procedure followed in cases of TB is usually harmful to the histo patient and advancement of the disease continues. The spleen, liver, and lymph nodes become enlarged, the patient becomes emaciated. And when there is still no recognition, no help, death ensues.

Fortunately, death of men is not a common occupation of fungi, nor parasitism their sole support. Many, especially the mushrooms, are saprophytic, taking their nourishment from dead matter, breaking down the waste of the forest, building up the soil. Other fungi form partnerships with plants and animals, relationships that are beneficial to both organisms. That association between plant and fungi—each remaining an individual, each fulfilling a need of the other, each being

Boletus, a pore mushroom

Stinkhorn

Calostoma

Puffballs after release of spores

fulfilled—is called mycorhiza, meaning fungus-root. The Indian pipe, *Monotropa uniflora*, spends its life in such a union, sharing its root space with the fungus that will feed it.

The Indian pipe has no chlorophyll. It is a waxy white, or pink. In the plant world it is lost, powerless to produce its own food as the other members of its family do, unable to survive beyond a seedling when the sugars stored for its germination have been consumed; a freak of nature, it is doomed, except for the fungus. By resting its seeds upon ground infested with the fungus, by allowing its roots, as it stretches them downward, outward, to be encased by the fungus, by sharing the food taken from the earth by the fungus, it survives. It is allowed life, growth, continuance, only because of fungi.

Many others live by the fungi, perhaps billions of others, the moccasin flower, the lichen, a myriad of forest trees; and animals live by them. Not only the mushroom-farming ants, and the ambrosia beetles, but men, too, cultivate and eat fungi.

The early Greeks and Romans experimented with mushrooms as food, sometimes becoming connoisseurs, sometimes narrowly escaping death, sometimes not escaping at all. Nero called them the "food of the gods" but only after he and his mother had murdered his stepfather with a meal of poisonous varieties.

Today mushrooms are considered delicacies, and dangerous, as they were in Nero's time. And despite the amount of reference material in print, a number of people are poisoned every year, sometimes fatally.

It is the flavor that entices, and the mystery; the fascination that remains beyond the knowledge of fungi, that calls men out to the forests and meadows in search of edible mushrooms, that tempts them, and charms them so completely that they eat before they think, as Alice did.

But the consequences of her nibbling are not to be expected when eating an unidentified mushroom, for reality is often more severe. And for those who have eaten poisonous mushrooms, growing large and then small again would seem nothing at all to withstand.

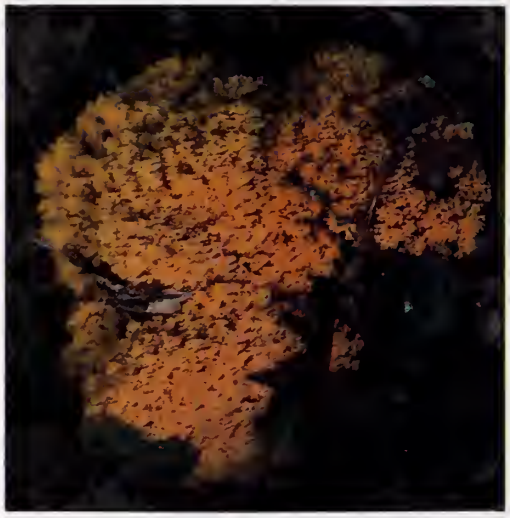
Among the fungi, there are relatively few that are poisonous, and many that are not. The Christians described that difference as being created by Jesus and Peter who walked through the forest dropping crumbs from the bread they had begged. Crumbs that fell from the brown bread caused poisonous mushrooms to grow, and from the white bread crumbs rose the edible varieties.

And so it must have been from the sweetest, the most delicate bit of white bread that the morel rose. Among fungi it is supreme, acclaimed by gourmets around the world,

Chestnut fallen from the ravages of a fungus

Bracket fungus on decaying log

Indian pipes



Coral mushroom

served in the finest restaurants. It has a cone-shaped, pitted cap, and sometimes is called the pine tree mushroom or sponge mushroom. It refuses cultivation (except, it seems, for one; a Frenchman of the last century who claimed to have grown morels in flower pots) and is sought in the spring by thousands in tune to the tempter's song.

For those who have not been successful in the search, there are other fungus flavors, even some as renowned and as ambroisial as the morel; the ones that coax the bread to rise, that lure the grapes to wine, the milk to cheese, and cheese then on to distinction.

Both Roquefort and Camembert are famed fungus-ripened cheeses, each named for that region in France where it originated. Roquefort is still made in caves, as it has been since its beginning, still ripened by the mold *Penicillium roqueforti* that grows through the curd of the cheese, interweaving it with the blue veins that have made the cheese, and the name famous.

There is this wealth of fame among the fungi, and there is distinction; but all too often the fame has become infamy, and the distinction, ill-repute. Billions of dollars are spent each year to supply the demand for fungicides. And as man spends more and more for products he believes will control fungi, he creates an atmosphere more suitable for the parasistic ones, and those that do the greatest damage.

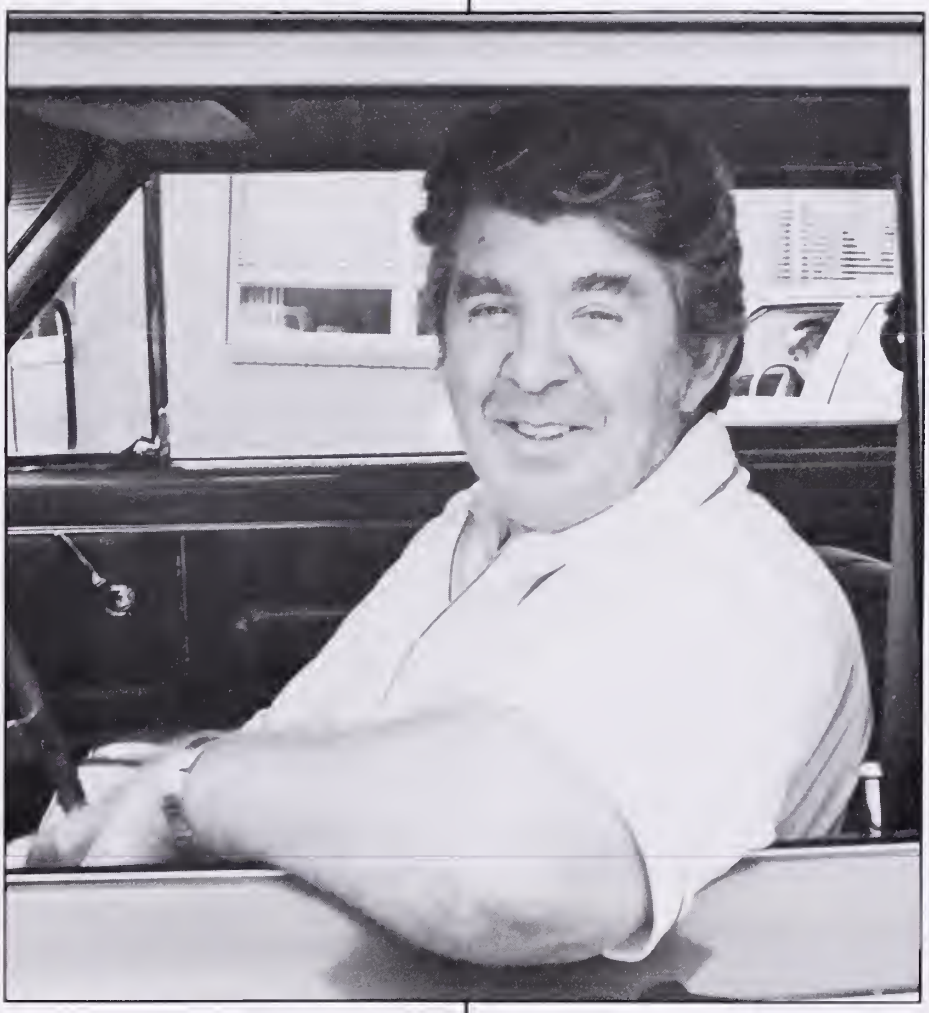
Fungi are strong, persistent. They have had a hold on this earth for billions of years. If man should tamper too much with the natural, perhaps paving too much, polluting too much, subsequently raising the temperature of the earth only the slightest degree, fungi may come to inherit the earth, growing more rapidly, consuming more rapidly, building up more rapidly, and tearing down again at a pace that man may not be able to control.

But fungi do not threaten devastation of the earth today, or tomorrow, or even the day after. There is no need to stock the shelves with fungicides. There is need only of respect, first for the pleasure of the senses; the beauty of golden shelves of the polyporous around an aging tree, the green luminescence of jack-o-lanterns in the dark, the flavor of the morel, the sweet apricot incense of the chanterelle. And there must be a deeper respect; for the mystery of fungi, and that kingdom of life without greens, without movement, that kingdom that gives life, to the orchid, to man, and may revoke it; the kingdom that has in its realm of power to make the living a celebration and a challenge, to make the dying pass with peace. □

Personalities

by Francis N. Satterlee

Lloyd H. Byrd



Lloyd Byrd was born in southwestern Virginia, in the town named for Count Pulaski. His father was in the oil business in Pulaski which claimed about 5,000 residents then. As is the case with most small towns, Lloyd and his two brothers "knew everybody in town." This closeness enabled the boys to be sought after for mowing lawns, delivering papers and all sorts of paying chores.

Lloyd also worked in a local grocery store and this led to an important event in his life and the lives of his brothers and mother. During his senior year in Pulaski High School, 1942, Lloyd's 16-year-old brother learned that a certain grocery store was for sale. Mr. Jackson, the proprietor, wanted to sell his business and retire.

The boys discussed business with Mr. Jackson and learned that he wanted what, at that time, seemed an enormous sum for his stock and for a rather ancient truck. They needed $600.00 and, much to their delight, found support from their father who co-signed a note, thereby putting them in the grocery business.

The store couldn't have been more conveniently located. It was directly across the street from the school so they didn't have far to go to work. During school hours, their mother "tended shop" and the boys worked after school and weekends. As one would imagine, the two soon learned that simultaneously going to school and being in business took some doing. Lloyd remembers working hard but he also remembers that they "never went hungry."

Lloyd graduated from Pulaski High School in June 1943 and five months later, he was notified by his draft board that he was to report for a physical. He and his close friend, Giles Luger, reported and learned that there were two openings in the Coast Guard. It sounded good to them, and they accepted that service over the others. One month later, Lloyd was assigned to Curtis Bay Training Station near Baltimore. From there he went to Little Creek Naval Base for training as a radar technician. Then he was sent to Pittsburg to join a crew manning a new LST (Landing Ship Tank) #796. On the shakedown cruise, the ship travelled down the Ohio River into the Mississippi and on to New Orleans. From there #796 sailed to the Phillipines and eventually participated in the invasion of IeShima, a small island about four miles off the coast of Okinawa, in April 1945.

At war's end, Lloyd, still aboard #796, became engaged in a massive prisoner exchange. They picked up Koreans in China and took them home. They took Japanese prisoners back to their homeland. In April 1946, Lloyd was discharged and returned to Pulaski.

In 1947, he went to work for the Virginia Department of Highways on a survey party. Then, in April 1974, he signed on with the Game Commission where he is an institutional planning and construction engineer.

He likes being able to work outdoors with people and to be a part of a planned project from its birth to its completion. He has been a vital link in the construction of many of the Commission's boat ramps located throughout Virginia. He is married to the former Virginia Tickle from Radford, Virginia. The Byrds and their son Chip live in Richmond. □

Growing Up Outdoors

edited by Sarah Bartenstein

Silver maple (left), black locusts (below), flowering dogwood (right), and service or Juneberry (bottom right).

Trees

Summer is a good time to think about trees. For one thing, they provide some delightful relief from the heat when you sit in their shade. You can see birds nest in them. Maybe a tree in your yard has a swing hanging from it. Or perhaps there's an apple tree nearby that provides some good eating. You might have a hammock strung between two trees. Maybe you're one of the lucky ones with a tree house to play in!

Try to think of some other things that trees give us, and give other creatures. How about this for a vacation activity: write a short essay or poem about trees and what they give us, and give animals. Send it to us, and we'll pick the best ones. If your poem or essay wins, we'll send you your very own subscription to *Virginia Wildlife*! And we'll print some of the pieces on this page.

To get you thinking, we've provided some trees and their leaves for you to color. If your family is going on vacation this month, take this page in the car with you so you'll have something fun to do. Riding in the car is also a good time to learn how to identify different trees. We've only printed a few here, but maybe your library or bookstore has a tree identification book that you could check out or buy and take on your trip—or just into your backyard.

These drawings were reproduced from the *Trees of the Northeast Coloring Book* by Stefen Bernath and Mildred E. Faust. The book is published by Dover Books and has 45 different trees for you to color. □

The Well-Equipped Game Warden

by Lt. Donald Miller
Education Supervisor
Law Enforcement Division

The Virginia game warden and his equipment are indispensable to the effective enforcement of the Commonwealth's wildlife, fishing, and boating laws.

The average game warden spends the majority of his or her working day in or near a patrol vehicle. This vehicle is, of course, the warden's means of transportation, but it also serves as his mobile office and communication center. The game warden's automobile has three antennae mounted on the trunk section. One radio allows direct communication with the Richmond office through an intricate relay system. Another frequency on the same radio allows car-to-car communication. Game wardens also work closely with the local law enforcement agencies, and the second antenna allows direct contact with the local sheriff's office. A second frequency on this radio gives the officer the SIRS state system. The third antenna is the citizen band radio equipped with a constant monitoring of emergency channel 9. Another communication tool is the electronic siren with its PA and loudspeaker.

Another purpose served by the patrol vehicle is the transportation of tools of the trade. These include office materials such as law books, summons books, office memos and directives, state and agency policies, permits, and schedules.

Mounted within easy access is a 5-cell "kel-lite," which is a flashlight that also serves as a night stick. Commission-issued binoculars are close by. Also, each car carries a personal, vest-type flotation device with the Game Warden shield. Complete first aid and snake-bite kits are standard equipment. Many wardens have assembled basic survival kits as well.

Herb Foster

The game warden's personal equipment includes his furnished uniform with regulation black leather work boots. Hip waders are furnished for working trapping, duck hunting, and trout stream activity.

The game warden, like all other law enforcement officers is required to carry, for the protection of life, a pistol. Game Commission officers carry a Smith & Wesson, stainless steel .357 magnum. Along with the gun belt and holster he wears is a matching case containing handcuffs. He also has a Remington pump 12-gauge riot shotgun.

Enforcing the boating laws requires watercraft of every description from the canoes which work the small white-water streams of western Virginia, to the powerful 170 horsepower 17-footers which patrol Smith Mountain, Kerr, Holston, Lake Anna, and the Chesapeake Bay. Boating enforcement also requires an endless variety of boating and water safety equipment.

Several pilots fly the land and pontooned aircraft which are available statewide for enforcement and surveillance purposes.

In order to apply and make use of this equipment, the game warden carries with him certain intangibles: training and knowledge, sound judgement, common sense, in service to the sportsmen and wildlife of Virginia. □

It Appears to Me

by Curly

. . .A PERSON OUGHT TO HAVE ONE

Someone once said that free advice is worth just what you pay for it. Now I don't have any quarrel with that kind of philosophy, but on the other hand I do have some advice which is free for the reading and I think it is priceless. It seems that just last month a marvelous new project was born in the Richmond, Virginia area. Called the Inter-Agency Oil Recycling Program, it involves the State Water Control Board, Office of Emergency Services, Litter Control Board, Council on the Environment and the Health Department. Once fully underway, the program will be expanded statewide.

The main idea of the project is the establishment of Citizen Recycling Centers where "do-it-yourselfers" can bring their used motor oil thus eliminating random dumping of petroleum products. As it is now, much of the cast-off oil finds its way into lakes, streams, fields and even into ground water, thereby causing significant problems for wildlife and humans alike. It is downright frightening to learn that just one quart of oil can cause taste and/or odor problems in 200,000 to a million gallons of water. Currently, both Fairfax and Arlington Counties have programs in operation.

For more specific information about this program and the location of the Richmond recycling centers, write to the State Water Control Board (Attn. Linda Smith), 2111 North Hamilton St., Richmond, VA 23230 or call her at 804/257-0076. Another contact is Allan Lassiter, OEES, 804/323-2963.

The good folks down at the Virginia Department of Agriculture and Consumer Services (Division of Markets) have really outdone themselves in preparing a whole passle of publications which are free. Well, there is one stipulation: to get them, you must include a self-addressed stamped envelope with each of your requests. To begin with, I reckon that I'll mention their booklet on dairy products. This dandy 16-pager immediately hit a responsive chord with me and my Minnesota dairy-land background. In it you

will find all manner of helpful hints including buying and storage guidelines for milk, butter, ice cream, cheese and sour cream. Then there are some recipes, a short but fascinating history of dairying entitled "From Moo to You" and a handy-dandy hint for insomnia which says in part, "If you can't sleep nights, try an old fashioned remedy—a glass of milk. Scientists say they have identified a subject in milk that actually helps induce sleep. . ."

A companion piece to the booklet described above is the 16-page "How To Enjoy Virginia Seafood." This gem not only deals with the purchasing of seafood, delves into some history and touches on the nutritional values, it has a chart listing when most of the saltwater species are generally available plus a five page illustrated spread depicting cleaning, filleting and "how-to's" pertaining to crabs and oysters.

You really ought to do yourself a favor and drop a line to the Virginia Department of Agriculture and Consumer Services, Division of Markets (VDACS-DM), P.O. Box 1163, Richmond, VA 23209. Both of the pamphlets are free (if you enclose that self-addressed stamped envelope).

. . .FOR YOUR BOOKSHELF

What with the annual observance of National Hunting and Fishing Day coming up again next month, it seems to be an appropriate time to mention a pertinent publication which is available for the paltry sum of $1.00. The 48-pager speaks to the subject of "The Un-endangered Species" and 'by George' that ties in nicely with the 1982 NHFD theme of "Pass It On." It seems that "passing it on" may be one of the great ways that we older folks can let the youngsters in on the marvelous sports of hunting and fishing and at the same time educate them with some solid facts . . . and that's just what the booklet does. Seems as though a disturbingly high number of our country's school-age children mistakenly think that most of American wildlife is in serious trouble. Quoting from the National Shooting Sports Foundations' news letter, we learn that, "of nearly .500 youngsters questioned, more than 80 percent thought that species such as elk, deer or antelope were either in "serious danger of extinction" or "some danger of extinction." It's no wonder that if they feel that way they would also be against hunting. Anyhow the National Shooting Sports Foundation (NSSF), in cooperation with the International Association of Fish and Wildlife Agencies, has produced the pamphlet listed above and the contents include chapters on the history of wildlife in America, the development of our early conservation efforts and sums up the situation with a discussion of the hunter's role in conservation and the fundamentals of wildlife management. You can't beat it for a buck ($1.00) from NSSF, P.O. Box 1075, Riverside, CT 06878.

Then there is the game cookbook which was recently sponsored by the state of Utah, Natural Resources & Energy Wildlife Resources. This gem, entitled "Game Cookery: Gourmet Style" is authored by world traveler-gourmond Joseph H. Smart, is loaded with illustrations by wildlife artist Clark Bronson and contains a melding together of famous game recipes from around the world. It's a winner and available for $6.00 postage paid from Heritage Arts, 1925 Imperial Street, Salt Lake City, Utah 84105.

. . .AND THEN

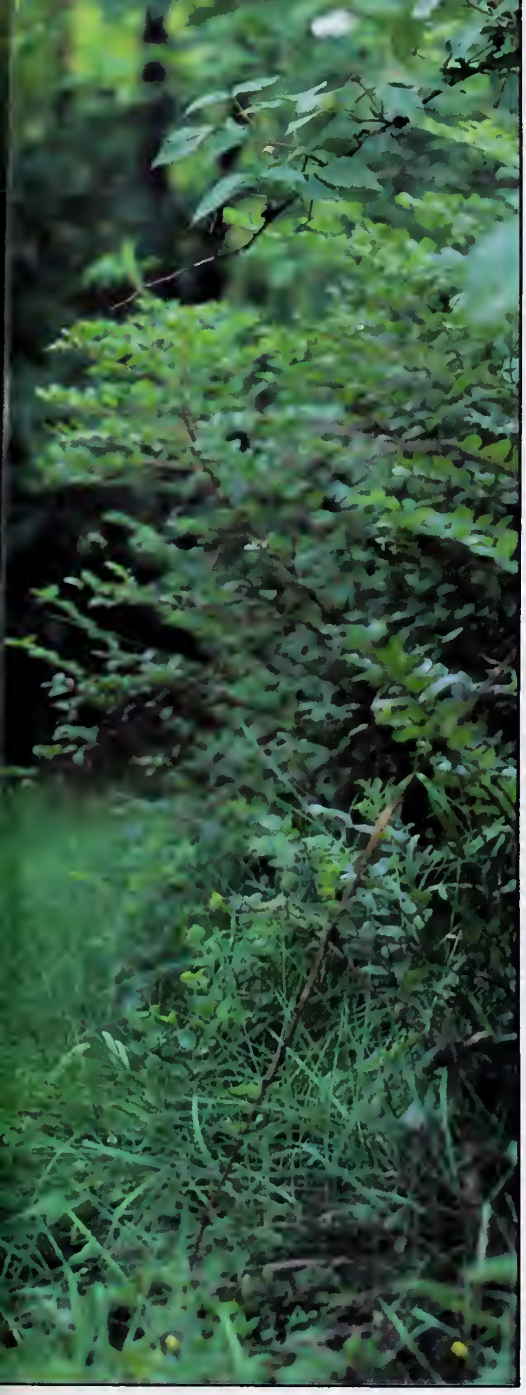
This column will be the final edition of "It Appears to Me" to be published in *Virginia Wildlife*. So let me say to you good folks that it has been a privilege to chat with you this way each month over the years. And with that, I say, so long, and ask you to remember that "A Person Ought To Have One." □

If you plan carefully and remember the limitations of the smallest members of your family, camping with children may well be the best vacation you've ever had.

"Take Me Along"

by Randall Shank

(Above left) With a backpack for the toddler and an eager three-year-old, a mountain trail becomes a pathway for learning—not only for children, but for adults who can recapture the excitement of seeing the wonders of the outdoors for the first time. (Center) Excitement is contagious. (Right) The perfect way to end an outdoor supper: toasting marshmallows. (Above right) A small job like washing the dishes can be fun, and makes a child feel a part of things.



As the blackness enveloped us, the light of the fire flickered like a firefly in the night. We huddled closer to the flames while a solo whipporwill serenaded us through the evening. The cover of darkness brings out the nocturnal inhabitants of the forest that stay hidden during the day. A skunk sneaked by the edge of light exuded by the campfire. Ambling in that characteristic nonchalant gait, the skunk inspected our camp and merged into the bushes when he found no morsels to his liking.

No sooner had the skunk departed when a raccoon appeared at the light's edge. Methodically he searched the ground and then the picnic table for a late night snack. Finding nothing, he too left for other stops on his evening rounds.

The children were asleep and we had only been here for a few hours, but I knew that it was good to be back. Camping on top of the mountain would be good for us all. I had suddenly rediscovered a part of me that had been missing, and I was anxious for morning so that my children could begin to make the discoveries that I had made long ago.

Before our children came along, my wife and I had spent the early years of our marriage camping, hiking, and fishing our weekends away. The Virginia outdoors was the summer cottage that we escaped to when our souls needed rejuvenating. Some of our favorite trips were backpacking jaunts along mountain trout streams where we could spend our days in secluded places along clear waters.

Knowing that we could not carry two toddlers with us into these out of reach spots and deciding that bottles, crying, and diapers would dampen the outdoor experience, our weekend

camping trips ceased. We stayed close to home with our children. After many months, our absence from the natural world helped us to forget the smell of a campfire and the feel of a cool wind on our noses. The freshness of a cold mountain morning was just a memory.

Inside us, though, the memory began to stir. Erin was 3½ years old and Jonathan was 1½. I knew that it was now time for them to begin to learn more about nature. We decided to go camping and introduce them to our plant and animal friends.

Children become excited about little things that we adults have dulled our senses to. Living in Tidewater Virginia, Erin really did not know what a mountain was. Our enthusiasm in planning our outdoor excursion to the Blue Ridge began to rub off on her. A few days before the trip we drove down a small hill and she asked, "Daddy, are these the mountains?" Later she said, "When we go camping in the mountains I want to take my tricycle. I'll bet it will be good in the snow." The fact that it was August made no difference to her. I knew from her questions and comments that she was anxious to find out more about the mountainous outdoors.

Planning is the key to taking small children on a weekend camping trip. By being prepared, family campers can overcome what might ordinarily be obstacles to having a good time. Proper clothing selection is essential. Camping involves a real communion with nature. If the weather turns cold or wet and you are not ready for it, you can be miserable. A brief list for children and adults for summertime camping would include short and long pants, a short and long sleeve shirt, a sweater or hooded sweatshirt, a change of socks and underwear, pajamas, a hat, comfortable but sturdy shoes, rain gear and extra clothing for the kids since getting wet and dirty is inevitable. Our daughter's needs when camping are few, but with a toddler son we need to take disposable diapers, bottles, and his own blanket.

Our camping gear is limited to the basics and we seem to fare pretty well. For the four of us, we use an umbrella tent and a pup tent with two people in each tent. We sleep on the ground staying comfortable in our sleeping bags with an air mattress or a foam pad underneath. Bed pillows from home add to our comfort. Other essential equipment includes a gas stove, gas lantern, flashlights (one for each tent), and a rain tarp. For our mealtime needs we use three pots, a frying pan, paper plates and cups, forks and spoons, paper towels, and a few other cooking utensils.

When children are hungry they want to eat. Frying a chicken ahead of time will eliminate cooking that first night if you arrive at your destination at dinner time. Sandwiches are great for lunches and nothing beats the smell of bacon that is cooking in the early morning. Dinner can be a gourmet delight or hot dogs—it is up to the individual. A small grill and charcoal can make the cooking and the trip more enjoyable.

No matter what the age, it is important to give each child some responsibility of his own. The tasks should be simple and should make the child feel good about himself when the job is done. For instance, our daughter likes very much to wash or dry the dishes when camping. Great! No tasks are too menial. Holding tent stakes, being in charge of the marshmallows, or gathering firewood are chores that are fun for kids. The evening campfire is where lasting relationships are made. Just sitting by the fire on a cool night and listening to the sounds of the forest can be the highlight of any family activity in the outdoors.

Having and raising children teaches a parent a great deal. Most of all, a parent learns that he cannot be as selfish in fulfilling his own desires and wishes as he would like to be. A small child and the outdoors bring this fact closer to home. For example, trout fishing has been my love and passion for many years. On our trip to Shenandoah National Park, the thrill of a brookie battling on the end of my fishing line would have been most pleasurable. But this feeling was not the goal of the trip. We wanted to begin to teach our children a little about nature and a little about themselves. By recognizing what their limited capabilities and interests were, we concentrated on letting them explore on their own and at their own pace—not ours.

The primary rule with small children and the outdoors is "don't overdo." A hike on a back country trail was one of the highlights of our trip, but we only covered a half mile at a very slow pace. We were not in the woods to do a long hike, but to watch and to see. Jonathan traveled on my back in a Gerry backpack, and Erin walked most of the trail. She wanted to climb a mountian, so instead of spending the day hiking up Old Rag, we took an hour to scramble up some big boulders. Erin's love affair with the mountains had begun.

It would have been nice to visit and play around some waterfalls but knowing that the walk to the falls would be strenuous, we stopped at the headwaters of one of the major streams on the mountain. Our children squealed with delight when their bare feet touched the ice cold water in the bubbling pool. The way back from the pool to the trailhead was a steep climb. During periods of the hike on our return, I had to carry our daughter because she was getting tired. Finally, after much exertion for her, we neared the crest of the ridge and the end of the hike. I yelled, "Let's race to the top!" With both of us running at full speed, we flopped to the ground at the end of the trail. We were out of breath and laughing with glee.

The outdoors is full of surprises and children miss very little. The sights, smells, and sounds of the outdoors can keep a child intrigued for hours. In public campgrounds where some wild animals have lost their fear of man, a child can get a close, first-hand look at a creature that he may otherwise never have the chance to see. A catbird visited us at lunch one day and his antics while looking for crumbs amused us all. The next day a skunk waddled through camp and we all kept our distance. The sighting of a deer excited everyone and the word "deer" is now fixed in Jon's vocabulary. Bugs are fun, too. Lying on one's stomach nose to nose with a caterpillar is a child's way of discovering just what that furry creature is all about.

One of my favorite birds is the hawk. Our family outdoor adventure gave me the opportunity to share this affection with those I love. Three broad-winged hawks glided in the warm thermal currents over the valley for a brief moment that August afternoon. Whistling back to the raptor's own calls of freedom, I felt a oneness with the birds and with my two children who were at my side pointing to those big birds in the sky. The great outdoor classroom is waiting for eager students to visit and learn what the world of nature holds. There is no better way for a child to begin to understand and enjoy the outdoor experience and to become closer to his family than on a family camping trip. Start with a simple overnight adventure, and soon you and your children will be ready to go back for more. □

Outdoor Notebook

edited by Mel White

Governor Robb Signs "Day of the Eagle" Proclamation

John Frischkorn

Governor Charles S. Robb signed a proclamation on June 7 recognizing June 20, 1982 as "National Bald Eagle Day" and 1982 the Year of the Eagle, and he "called the purpose of these observances to the attention of all Virginians."

The Certificate of Recognition reads: "Resplendent on the Great Seal of the United States, one talon extending the olive branch of peace, the other the arrows of defense, the bald eagle has been our nation's symbol since the official designation by the Congress in 1782.

"As a reminder that this magnificent bird now faces extinction from the spread of pesticides and wanton shooting and destruction of habitat, the Virginia Wildlife Federation has set aside June 20, 1982 as NATIONAL BALD EAGLE DAY and 1982 as the Year of the Bald Eagle, and I call the purpose of these observances to the attention of all Virginians."

Shown here with Governor Robb are (left to right) Charles Traub, Virginia Wildlife Federation; Betty J. Deiner, Secretary of Commerce and Resources; Joe Hoehline, VWF; Dorothy Traub, VWF; and Walter J. Leveridge, former commissioner from Virginia Beach. □

Archers Asked to Stop Shooting Shenandoah Carp

Sneaking quietly up to the edge of the lake, the archer nocks his arrow, draws the bow's 45-pound pull and releases the shaft of the specially-designed fishing arrow. With almost no sound, the aluminum lance splits the air, then the water, and finally the big carp that was basking in the afternoon sun.

A prize catch? Yes, in most cases, but our bow fisherman was pursuing his sport at Shenandoah Lake and the carp he arrowed was, for Virginia, a rare and interesting fish—a fish not yet ready to become part of the sportsman's creel.

The carp in Shenandoah Lake are a hybrid grass carp of the genus *Ctenopharyngodon*. These fish, unlike other carp found in Virginia waters, are vegetarians. The Game Commission's fish division stocked Shenandoah to see if the carp would be useful in controlling the weed problems which occur in many impoundments in the state. The hybrid fish, which in theory are unable to reproduce, would be a controllable source of weed reduction.

Archers depleting the population, however, are making it difficult to determine the results of this study, as there is no method set up to accurately account for this unexpected loss of fish.

Consequently, the Commission has prohibited further taking of grass carp by archers at Shenandoah Lake. Signs warning archers of the new rules have been posted at the lake. The Commission hopes archers will understand the necessity of this rule and cooperate in making the grass carp study a success. □

DU Banquet On Tap

Don't forget the Ducks Unlimited banquet next month. It's scheduled for September 15 at the Holiday Inn 3200 in Richmond. Refreshments, auction and prizes are slated for 5:30 p.m., and dinner follows at 7:30. For ticket information, call Bub Shreaves at 644-2686, or Pat Brooks at 746-5291. □

Buggs Island Catch

Buggs Island Lake produced this excellent rockfish for W.A. Price of Farmville. The May catch weighed in at 20 pounds.

Waverly Press Photo

Virginia Wildlife Federation 17th Conservation Awards Program

The Virginia Wildlife Federation believes that those who work so tirelessly to save and conserve America's priceless natural resources should receive public praise, recognition and appreciation. No nation has been more blessed with natural riches and beauty. No nation can remain strong, its people healthy and happy, its way of life full, rich and meaningful, without wise use, conservation and preservation of those same priceless resources. By recognizing and encouraging conservation leaders, the VWF believes America's future can better be secured. *Virginia Wildlife* readers are invited to nominate conservation leaders for one of this year's conservation awards. Awards will be presented on October 16 at the Midtown Holiday Inn, 3200 West Broad Street, Richmond, Virginia. For room reservations, phone 804/359-4061. For tickets send $17 (for each ticket) to Virginia Wildlife Federation, 4602-D West Grove Ct., Virginia Beach, VA 23455.

Sponsored by the Virginia Wildlife Federation and Sears Roebuck and Co.

CATEGORIES

Conservation Educator	Youth Conservationist	Legislative Conservationist
Conservation Organization	Conservation Communicator	Forest Conservationist
Soil Conservationist	Conservationist of the Year	Wildlife Conservationist
Water Conservationist	Clean Air Conservationist	River Conservationist
	Hunter Educator	

VWF 1982 Conservation Awards Nomination Form

To make a nomination, send two copies of this form and all attachments to: VWF Conservation Awards Center, 4602-D West Grove Ct., Virginia Beach, Virginia, 23455.

Nominee:

Name _____

_____

Complete Address _____

_____

_____

Award Category _____

_____

Please specify one of the 11 categories for which nomination is made. Use a separate nomination form for each award category and for each individual or group nominated.

Recommended by:

Name _____

_____

Title _____

Complete Address _____

_____

_____

Name of Member Club _____

Date _____

Please attach two copies of a resume of achievements not to exceed two typed pages. Include organization memberships, affiliations, past achievements, past recognition, specific acts for which recommendation is based, and other references for comparison. A full documentation is needed by the judging committee.

NOTE: NOMINATIONS MUST BE POSTMARKED NO LATER THAN MIDNIGHT SEPTEMBER 1, 1982

Whitetail Deer Book Looks at Giants

Great Whitetails of North America is not just another book on whitetail deer. It's a book on giants—those huge trophy animals that so many hunters dream about encountering in the woods.

Author Robert Rogers covers 33 states in his deer documentary, along with a romp through six Canadian provinces and three states in Mexico. He has provided maps for these areas that he says pinpoint the hottest spots for trophy whitetail hunting. Also included are photos of the largest typical and non-typical Boone and Crockett deer taken from that area. The book's 224 pages are illustrated with more than 100 photos of the largest whitetails ever taken.

Many of the photos are the work of photographer Jerry Smith and are complemented by the sketches of artist Charles Beckendorf.

Great Whitetails of North America can be ordered from the publisher, Texas Hunting Services, 5058 Wingfoot, Corpus Christi, Texas 78413, for $17.95 per copy (postpaid). □

New Rules of the Road Shown in Boater's Guide

A revised edition of the Game Commission's Motorboat Owner's Guide is currently available. The updated publication contains new rules of the road which went into effect in December 1981 and conform closely to the International Collision Prevention Regulations.

The Motorboat Owner's Guide also features information on the new rules concerning titling your watercraft.

The new information contained in the publication is vital to boaters operating in Virginia. Copies are available from the Commission of Game and Inland Fisheries, 4010 West Broad Street, Richmond, Virginia 23230. □

1982-83 Sportsman's Calendar

It All Starts Next Month!

Virginia's own Sportsman's Calendar for 1982-83 begins with September—and keeps the color coming clear 'til August 1983!

Send the coupon below and we'll send you the VIRGINIA WILDLIFE SPORTSMAN'S CALENDAR:

It's BIG: 15" x 24"

It's COLORFUL: 12 8½ x 10½" full color wildlife prints

It's INFORMATIVE: Fishing and hunting seasons; animal activities and the most colorful times to view our wildflowers and trees.

I have enclosed a check* for $2.50. Please send me the 1982-83 Sportsman's Calendar.

_____

Name

_____

Address

_____

City *State* *Zip*

**Please make checks payable to Treasurer of Virginia*

What Plant Is That?

A good question, and one that can be answered if you are romping about the coastal areas of the mid-Atlantic states by obtaining a copy of Gene Silberhorn's new book, *Common Plants of the Mid-Atlantic Coast*.

The book serves as a guide to vegetation in the region, and teachers or students of botany, as well as anyone exploring the dunes, marshes and woods of the coastal area, will find it a useful addition to their exploring gear.

The book is published by the Johns Hopkins University Press and its style is unburdened with the complex technology usually found in scientific literature. The book forms a good introduction in text and illustration to the fragile ecology and remarkable beauty of coastal flora. It provides a simple key to the plants and a location map.

Available at most bookstores, the hardcover edition sells for $17.50; paperback versions are $7.95. □

You can be sure to catch more on the pages of Virginia Wildlife!

Catch the big savings on the per-copy price of *Virginia Wildlife* when you buy it "by the dozen." You'll get a 65% savings on the best how-to, where-to and when-to outdoor magazine Virginia has to offer! Mail the form below to *Virginia Wildlife*, P.O. Box 11104, Richmond, Virginia 23230, or give it to your game warden.

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The Oak Mast Study

Game biologists are counting acorns to learn how well wildlife is likely to fare during the winter months.

by Joe Coggin

That old oak tree in the front yard used to make walking barefoot a real hazard during the fall months after the acorns fell. Raking them would help some but it seemed that they would never stop falling! The only way, at ages eight to 12 that I could think of to salvage any fun at all from those acorns was to shoot them with my ever-present slingshot at tin cans placed on fence posts around the nearby garden.

Many years later, after I became a wildlife biologist, acorns took on a new and important meaning. Most wildlife biologists will tell you to expect a good squirrel population following a good mast crop year, and the population will generally be lower following a year of poor mast production. Likewise, the amount of mast available to deer during the fall and winter is considered an important factor in the percentage of fawns surviving the winter. Genetics may play a major part, but mast is believed to have an important influence on the percentage of yearling bucks growing antlers beyond the spike stage during the spring and summer. There is some evidence to indicate that turkey production is higher following years of high mast production, although mast is certainly not the only factor influencing these biological processes.

The reason for the reaction of wildlife to good mast production is obvious. Good nutrition is the key. It means that animals entering the harsh winter months in good physical condition can better withstand the critical times when food availability is at its minimum.

A recent study that was designed to determine the amount of oak mast available to wildlife during the winter months yielded some surprising results. The results of the three-year study varied from year to year, but generally speaking, less than half the acorns that were produced are available in January and about 75 percent of these are infected by insects and/or decay.

Seventeen percent of the acorns were found to be infected in September before they fell from the trees. From that time on, the number of acorns are fewer and fewer, and the percentage of acorns on the ground that are infected becomes higher and higher. This trend continues so that by April, less than 10 percent of the total acorn production remains. The remaining acorns are 80 to 100 percent infected. As a result of this infection, they are of little or no value to wildlife.

The relatively small amount of good firm acorns that are available during February and March are valuable as wildlife food. However, the principle benefit of the acorn crop is the fact that it is an important source for "fattening up" animals before the winter months begin.

A very interesting deer nutrition study that was conducted at VPI & SU, Blacksburg, Virginia, demonstrated a compensating factor inherent in deer for the diminishing food supply in winter. Dr. Roy Kirkpatrick explains: "Deer begin a voluntary food restriction around mid-November in Virginia. Between then and the first of January, consumption declines to about one-half and remains at that level through February." So, as the food supply declines, the food intake demand lessens for these animals.

Virginia biologists have developed a system for evaluating the mast crop in late August and September before the acorns fall. This information helps us by furnishing a key to the physical condition of the animals just prior to the long winter and is an indicator used in predicting their physical condition for bearing young during the spring and early summer.

We began working on a system for oak mast crop evaluation in August 1971. Briefly stated, the method we devised was to count the acorns on the last 24 inches of 10 twigs chosen at random on 10 white oak and 10 red oak trees. These 20 trees

Jerry Sims

were regarded as a study plot. Four plots are located on each game management unit. Each plot consists of 10 red oak and 10 white oak trees.

Plot number one is located at the foot of a typical ridge in the unit which will place it in the hollow or valley along a road that leads up the mountain. This plot will be at the lowest altitude of any of the areas sampled. Plot number two is established approximately half-way up the mountain on one side. Plot number three is placed about the same elevation but at the opposite exposure and on the other side of the mountain. Plot number four is located on top of the mountain. This configuration, gives us as many exposures as can be obtained with four plots.

The selected trees are located in full sunlight close enough to the road so that the acorns can be counted from the road. All trees have full crowns and are not less than eight inches in diameter (DBH). The trees are marked by painting a three-inch wide white band around the white oak group, and a three-inch wide red or blue band around the red oak group. Each tree is numbered with the same color paint so the same trees are sampled each year.

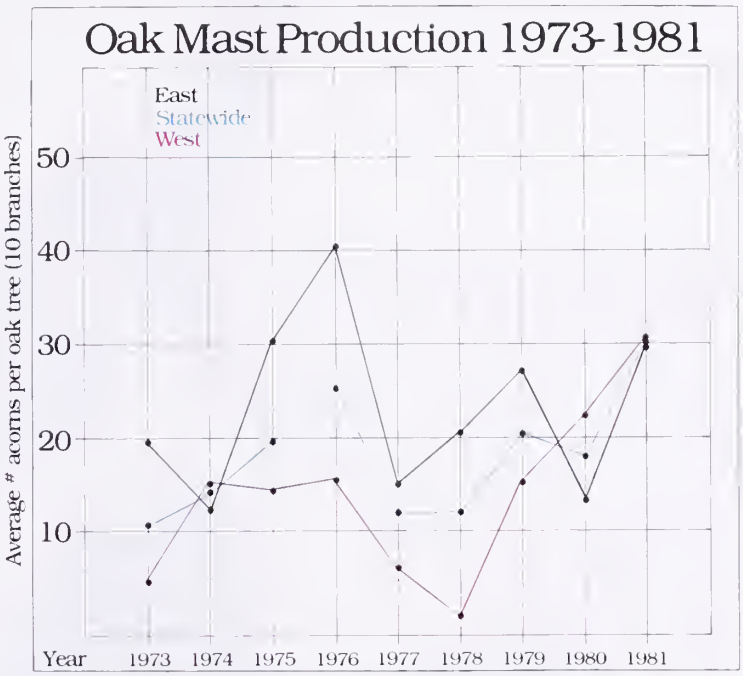
The mast crop is estimated by randomly selecting 10 branches from the upper half of the crown of each tree and circling the tree as the branches are chosen. The acorns on each branch are counted and recorded. After all trees have been sampled, we calculate the average acorn production per tree, per plot, per unit, and statewide.

The averages for east of the Blue Ridge, west of the Blue Ridge and statewide are shown on the graph, "Oak Mast Production 1973-1981." Although the mast crop east of the Blue Ridge was heavier in 1975 and 1976, last year (1981) was a record-breaker statewide.

The data also show where the mast production was in terms of altitude exposure, and give a comparison of the mast yield of the red and white oak groups.

The study has been conducted statewide on National Forest and Game Commission owned lands since 1973. It is considered a valuable tool in our wildlife management program. □

Joe Coggin is a game biologist supervisor with the Game Commission. He works out of Eagle Rock in southwestern Virginia.



(Opposite page) Chestnut oak acorns. (Below) Biologists count the number of acorns on each of ten branches on marked trees.

Spike Knuth

Bird of the Month

by Carl "Spike" Knuth

The Belted Kingfisher

A piercing, "rattling" call echoes along the shoreline, immediately capturing the attention of the fisherman sitting quietly in the early morning sun, and the boater loading gear into his boat for a day's outing. It is a call that is apt to be heard along any lakeshore, river, pond or tidal creek. It is the distinctive call of the belted kingfisher. It is often merely referred to as "kingfisher" but is known also by the names lazy-bird or the halycon, which is a bird out of pagan mythology, "fabled to nest at sea during the winter solstice," which calmed the waves. There are some 200 species of kingfishers worldwide, but only two are found in the United States. The Texas or green kingfisher is confined to southern Texas, but the belted kingfisher is common over all of the United States and most of North America.

The belted kingfisher is so-named for the bluish-gray belt across its chest. It's a bird with a large, crested head; a long, straight and sturdy bill, short tail, and short legs and small feet. It measures about a foot in length and has bluish-gray upper-parts and white underparts. The female has reddish-brown flanks and band across its abdomen, just under its bluish belt. The primary wing feathers are a dusky black and white speckles show on the dull field of blue on the upper wings. Its wings are moderate to short and generally rounded. It also has a white spot in front of its eye.

In flight, the kingfisher can be recognized by its deep, irregular wingbeats, first beating fast, then changing to slow, easy beats—as if a movie were suddenly changed to slow motion. As it flies along a shoreline, it may suddenly come to a rising, fluttering halt—hovering and beating its wings frantically—about 10 to 30 feet above the water. Its keen eyes have spotted a small fish in the shallows. Like a falling rock, the kingfisher plummets downward, knifing into the water like a spearhead. It strikes the water with such an impact that it is a wonder that this flesh-and-feathered fisherman escapes without injury. Except for the terns, the kingfisher is the only small bird that dives headlong into the water for fish. After catching its meal, it flies immediately to a nearby barren limb where it kills it and softens it up by hammering on it—especially a larger fish—and then swallows it, head-first.

If it has young awaiting, the food is carried to its nesting burrow. These burrows are dug in sandy or gravel banks with the male doing most of the digging with his bill. The burrow is usually four or five feet long, constructed with an upward slope, undoubtedly for water drainage. The end of the burrow is an enlarged, round area which constitutes the nesting compartment. About five to eight white eggs are laid on the bare floor or amid debris from previous meals. While the female is incubating, the male may dig two or three short, incomplete burrows—apparently to confuse predators. The young hatch naked like other perching birds and are fed and grow in much the same manner. Kingfishers that inhabit forested lakeshores and river banks may nest in deep tree cavities.

Kingfishers are loners and will not tolerate others of their kind on their fishing territory. They utilize the same perches or observation posts on a regular basis as they patrol a circuit within their domain. While they feed almost exclusively on small fishes, they occasionally take frogs, salamanders, crayfish and large insects. They are often maligned for taking small fish—from hatcheries or fish farms. It's true, they will take advantage of "easy pickin's" when available, but even as man is able to take fish and game—to harvest part of the surplus—shouldn't the wild creatures be allowed the same bonus?

The belted kingfisher breeds from northwestern Alaska east to Newfoundland; south to the whole tier of southern states around the Gulf and Southwest. It winters from British Columbia, Nebraska, Illinois, Ohio and Virginia south, but is often found farther north if open water is available. Migratory kingfishers return to Virginia in late March, but many stay year 'round on the Eastern Shore and around the Chesapeake Bay.

Whether on a mountain stream, a large reservoir, a farm pond or a tidal marsh, the kingfisher—with its necessary physical tools to fill in a unique spot in the outdoor world—adds a little more interest and enjoyment to a day afield. □